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Utilizing Technology to Maximize Library Efficiency



Naval Research

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Game Plan

- The digital environment - Three technology trends
- Charting a course to the digital future - Where we're going and how we'll know when we get there
- The digital library - Information at the NRL desktop via InfoWeb, TORPEDO, WebCat, Contents-to-Go
- Building electronic collections - Licensing and digitizing
- Getting to the 21st Century - What's on the horizon

Three Technology Trends for Information Management Today

- Desktop Access
 - Computer provides support for research process
 - 24x7 access to information can boost productivity
- Graphical Access
 - Researchers already use Web to find information
 - Library services via Web can build on acceptance
- Content Access
 - Users want actual documents not just pointers
 - Next step for libraries: links to digital content

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NRL Environment

Navy's Corporate Research Lab

Main Campus - Washington, D.C.

3,500 Federal Employees [1,600 Scientists & Engineers]

1,000 On-site contractors

130-acre Campus 116 Buildings

Subject Focus

Physics, Chemistry, Electronics, Space Sciences

Other Locations

NRL - Stennis, MS

NRL - Monterey, CA

Parent Organization

Office of Naval Research, Arlington, VA

: Delivering Information to the Desktop

InfoWeb Information System and Gateway

TORPEDO Digital Library Initiative

WebCat Web-based STILAS Library Catalog

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TORPEDO Digital Library Initiative

- Desktop access to the **full content** of technical reports and scientific journals
 - Displays equations, formulas, graphs, and charts
- Web-based - requires only network connection, graphical Web browser, and Acrobat viewer
- Production system - TORPEDO first went online nationally to NRL sites in 1995
- Upgraded in 1997 to TORPEDO II

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How TORPEDO II Works

- TORPEDO II is built on a COTS search engine
 - RetrievalWare by Excalibur
- TORPEDO delivers text and page images
 - TIFF-encapsulated optimized PDF
 - publisher-generated optimized PDF
- Library gets PDF by
 - scanning and OCRing documents
 - converting TIFF images provided by publishers
 - obtaining PDF directly from publisher
 - downloading from the Web (with permission)

Advantages of TORPEDO to NRL

- Integrated information from commercial publishers, association publishers, and government sources
 - 160 Elsevier journals 1995 -
 - 2 APS journals 1993- and 1994-
 - 5,000 NRL technical reports 1975-
 - 1,000 other reports 1943 -
 - 5,000 NRL-authored journal articles 1988-
 - 2,000 NRL Press Releases 1968-
- A single search interface for all materials
- A locally maintained archive that offers researchers
 - High speed connectivity
 - Guaranteed future access

: Catalog Access to Journals & Reports The Content-capable Web OPAC

- Adding URL to catalog records permits users to retrieve and display digitized document content
- NRL provides such access through WebCat
 - For reports - cataloged as individual items
 - user identifies item through catalog search
 - clicks on hyperlink to display document
 - For journals - cataloged at title level
 - user clicks on desired hyperlinked year range
 - automatically links to TORPEDO or remote site
 - browses holdings to select and display article



Providing Content by Licensing



Elsevier Electronic
Subscriptions
Other Publisher Agreements

Elsevier Electronic Subscriptions

- Electronic version of print journals
- Publisher delivers: TIFF images, OCRed text, and SGML bibliographic headers
- NRL: 160 journals delivered on CD-ROM
- TIFF converted to PDF, stored on RAID
- Integrated with other information and made available through TORPEDO

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New Publisher Agreements -1997

- License agreements signed
 - American Mathematical Society
 - Society for Industrial and Applied Mathematics
 - American Vacuum Society
- Negotiations in progress
 - American Institute of Physics
 - Institute of Electrical Engineers
 - Institution of Electrical and Electronic Engineers
 - Institute of Physics
- Plus expansion of APS agreement:
 - *Physical Review A, B, C, and D* will join *E & Letters*



Providing Content by Digitizing



Unclassified Technical Reports
Project

APS Current Journal Experiment

APS Retrospective Conversion
Project



NIST Interagency Agreement



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Digitizing Agency Documents

- Library began scanning reports in 1989
- Over 185,000 Unclassified reports (> nine million pages) are networked in Library
- Page images seamlessly linked to database
- UU reports added to TORPEDO with hyperlinks from STILAS WebCat
- 6,000 (5,000 NRL) available on Web

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APS-NRL Journal Experiment

- Agreement between NRL and APS to test electronic dissemination of current journals -Physical Review Letters and E
- Process: unbound paper copies sent by overnight mail from publisher; scanned and OCRRed by Library
- Available to NRL users at their desktops within 24 hours through TORPEDO

APS-NRL CRADA

(Cooperative Research & Development Agreement)

- Investigation of search and retrieval systems for the display and printing of journal images and the use of the Internet as a transmission medium.
- By-Product: Page images of Physical Review series 1985-1995 produced by NRL
- Images are FTP'ed to Los Alamos Nat'l Lab Lab
- All images available on PROLA (Physical Review On-Line Archive) and TORPEDO

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INROADS Interagency Agreement

- Internet **N**IST/**N**AVY **R**esearch **O**nline **A**ccess and **D**elivery **S**ystem
- Goal: Integrated access to agency publications
 - NIST Journal of Research
 - NRL Technical Reports
- NRL to digitize and OCR Journal of Research
- Desktop access will be via TORPEDO
- NIST to archive TIFF images for future use

Create the

National Digital *Reports* Library

- NRL-DTIC to share report images (TIFF)
 - DTIC will select and scan NRL Classified holdings
 - NRL will provide Unclassified images to DTIC
- NRL to test DTIC electronic document distribution
 - DTIC ADD report image files sent on tape to NRL
 - NRL will
 - Convert TIFF images to PDF and OCR
 - Make available with other reports in TORPEDO
- UU reports on NRL servers to be openly accessible on Web through STILAS WebCat and TORPEDO